Research Article

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The prevalence study of hydatid cyst in domesticated slaughtered animals in industrial abattoirs in Iran

Abstract

Hydatidosis is the most important zoonotic disease of global prevalence. It causes considerable public human health and economic losses throughout the world, including Iran. The objective of this study was to assess the prevalence of hydatid cyst in slaughtered animals in the industrial slaughtere house of Kohgilouyeh and Boyerahmad province. In this cross sectional study was investigated, 39394 head of animals, including; 24449 sheep, 2141 cattle, and 12804 goats. Their carcasses were inspected using macroscopic method and questionnaiire for hydatid cysts, in the slaughterehouse of Kohgilouyeh and Boyerahmad province (Boyrahmad (Yasuj), Ghachsaran, Dehdasht, Bahmaei, Dena areas) abattoirs (Jaunary 2013-July 2013). Data analysis was performed by descriptive tables and analyzed by $\chi 2$ statistical test and SPSS software (Version 19.0). The prevalence frequency of hydatid cyst was found 15-20%, 20-30%, 6.5%, and 4-5% in cow, sheep and goats respectively. Moreover, 56% infected livers, 12.5% infected lungs, 31.7% liver and lung simultaneously, 0.04% infected heart and 0.13% infected kidney were found respectively. Overall, prevalence of hydatid cyst in Kohgilouyeh and Boyerahmad province was 2300(7.8%) head of infected animals were in 1320(6.4%) Boyrahmad (Yasuj), 690(6.3%) Ghachsaran, 59(1.3%) Dehdasht, 87(5.6%) Basht, 37(104%) Bahmaei and 107(16.7%) Dena areas respectively. This study indicated that prevalence of hydatid cyst is relatively intermediate in the slaughtered animals in Kohgilouyeh and Boyerahmad province, which in addition to imposing high economic losses due to the deleting of infested organs of animals and decrease in livestock products, indicates the existence of conditions for health risks for residents which requires more inclusive and comprehensive sanitary and control measures due to this parasite's life cycle and transmission.

Keywords: hydatid cyst, echinococus granulosus, zoonoses, Kohgilouyeh, boyerahmad province

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Introduction

One of the most important groups of human nutrition is the proteins. In recent decades due to population growth, requires a better and healthier quality protein sources is greater than ever before. Meat and other animal protein products are afforded a special place in human nutrition.[1]

Hydatidosis or cystic disease of Echinococcusis is one of the most important zoonotic infectious diseases that happens by species larval stages of Echinococcus granulosus and Echinococcus Multilocularis in humans and herbivores animals.[2–4] Adult worms and parasites in the intestines of canine lives as final hosts and herbivores are main intermediate hosts. Human is an intermediate accidental host that has infected by contaminated water and vegetables with parasite's eggs or direct contact with infected dogs.[5,6]

This disease has a worldwide distribution and a large health and economic damage annually to countries such as Iran. This disease usually decreases animal products such as milk, meat and wool in livestock pollution Hydatidosis significantly and causes capture and dispose of the organs of infected animals in the slaughterhouse. In the idea of a group of researchers, the health implications of this disease for society and even the country are much more than economic importance. Although dogs in Iran (stray dogs, sheep dogs and pets dogs) have a very important role in the transmission of this illness, but wild carnivores such as wolves, jackals, hyenas, leopards and foxes retain the wild life cycle of the parasite in nature.[7–9]

Hydatidosis clinical symptoms in animals depend on the number, size and location of the cyst formation. In sheeps, the clinical symptoms are very limited because the economic life of the animal is short. Liver and lung hydatid cysts are usually asymptomatic and most of the contaminants are identified in the inspection after slaughter.[10,11] Hydatid cysts in humans usually affect liver and lungs and severity of clinical symptoms and pathology of disease depend on formation of cysts in the body, size and their locations.[8,12] Intensity of infection in different parts of the world are not the same and depends on some factors such as health status, economic, social and cultural properties.[13] Hydatid cysts have been reported from all ruminants in Iran, sheep with 88%, camel with 70% and cattle with 19% are the the most and least important considered intermediate hosts of *E. granulosus* in Iran.[14,15]

Slaughterhouses important centers for the collection of data that are obtained from daily inspections and collected information from Slaughterhouses can be used to estimate the prevalence of various diseases. In recent years due to health, particularly in developing cities, sensitivity to healt of meat has increased and thus fewer studies have been conducted in such areas such as Kohgiluyeh and Boyer-Ahmad Province. This study was took place to determine the prevalence of hydatid cysts in slaughtered animals (cattle, sheep and goats). There are problems caused by the cysts and accurate understanding of the epidemiology of the disease in domestic animals (cattle, sheep and goats) in all areas of the province to help authorities in adopting adequate mechanisms of control and planning. The